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Applicant(s) : Yogesh S. Sanghvi, et al.

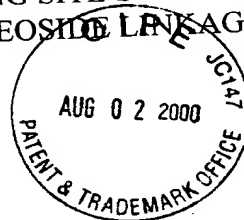
Title: GAPPED OLIGOMERS HAVING SITE SPECIFIC CHIRAL PHOSPHOROTHIOATE INTERNUCLEOSIDE LINKAGES

Serial No.: 09/438,989

Filed: November 12, 1999

Docket No.: ISIS-4288

Date Sent: July 31, 2000



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DOCKET NO.: ISIS-4288

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Application of:

Yogesh S. Sanghvi et al.

Serial No.: 09/438,989

Group Art Unit: 1623

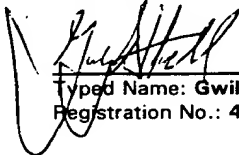
Filing Date: November 12, 1999

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For: **GAPPED OLIGOMERS HAVING SITE SPECIFIC CHIRAL
PHOSPHOROTHIOATE INTERNUCLEOSIDE LINKAGES**

Date of deposit: July 31, 2000

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Typed Name: Gwilym J.O. Attwell
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Assistant Commissioner for Patents
Washington DC 20231

Dear Sir:

INFORMATION DISCLOSURE STATEMENT

Pursuant to 37 C.F.R. §1.56 and in accordance with 37 C.F.R. §§1.97-1.98, information relating to the above-identified application is hereby disclosed. Inclusion of information in this statement is not to be construed as an admission that this information is material as that term is defined in 37 C.F.R. §1.56(b).



In accordance with §1.97(b), since this Information Disclosure Statement is being filed either within three months of the filing date of the above-identified application, within three months of the date of entry into the national stage of the above identified application as set forth in §1.491, or before the mailing date of a first Office Action on the merits of the above-identified application, no additional fee is required.

- ☐ In accordance with §1.129(a), this Information Disclosure Statement is being filed in connection with ☐the first or ☐second After Final Submission, therefore:
- ☐ Certification in Accordance with §1.97(e) is attached; or
- ☐ The fee of \$240.00 as set forth in §1.17(p) is attached.
- ☐ In accordance with §1.97(c), this Information Disclosure Statement is being filed after the period set forth in §1.97(b) above but before the mailing date of either a Final Action under §1.113 or a Notice of Allowance under §1.311, therefore:
- ☐ Certification in Accordance with §1.97(e) is attached; or
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- ☐ Copies of each of the references listed on the attached Form PTO-1449 are enclosed herewith.
- ☒ Copies of references listed on the attached Form PTO-1449 are enclosed herewith EXCEPT THAT:
- ☒ In view of the voluminous nature of references **CE-CG**, and the likelihood that these references were available to the Examiner, copies were not enclosed in application Serial No. 09/115,027; A copy of reference **CG** was not enclosed in application Serial No. 09/352,058. A copies of references **FI and FJ** are not enclosed herewith.

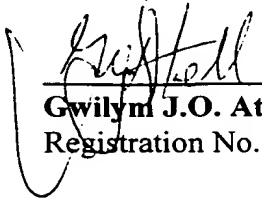
- ☒ Pursuant to 37 C.F.R. 1.98(a)(2)(iii), no copy of a U.S. patent application (***) need be included with an Information Disclosure Statement filed under 37 C.F.R. 1.97.
- ☒ In accordance with §1.98(d), copies of the following references listed on the attached Form PTO-1449 are not enclosed herewith because they were previously cited by or submitted to the U.S. Patent and Trademark Office in patent application(s) for which a claim for priority under 35 U.S.C. §120 have been made in the instant application:
- ☒ Copies of references **AA-CG, FK-FU, GA-GJ, GP-GY** listed on the attached Form PTO-1449 were previously cited by or submitted to the Patent and Trademark Office in prior application Serial No. **09/115,027**, filed **July 14, 1998**; and copies of references **CH-EH, FV, and HE-JH** listed on the attached Form PTO-1449 were previously cited by or submitted to the Patent and Trademark Office in prior application Serial No. **09/352,058**, filed **July 14, 1999**.
- ☐ If any of the foregoing publications are not available to the Examiner, Applicant will endeavor to supply copies at the Examiner's request.

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Date: July 31, 2000


Gwilym J.O. Attwell
Registration No. 45,449

WOODCOCK WASHBURN KURTZ
MACKIEWICZ & NORRIS LLP
One Liberty Place - 46th Floor
Philadelphia, PA 19103
Telephone: (215) 568-3100
Facsimile: (215) 568-3439

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Form PTO-1449 Modified List of Patent and Publications Cited by Applicant (Use several sheets if necessary) U.S. Department of Commerce Patent and Trademark Office		Docket No. ISIS-4288	Serial No. 09/438,989
		Applicant Yogesh S. Sanghvi, et al.	
		Filing Date November 12, 1999	Group 1623
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	BO	Oberhauser, B. et al., "Effective incorporation of 2'-O-methyl-oligonucleotides into liposomes and enhanced cell association through modification with thiocholesterol", <i>Nucl. Acids Res.</i> , 1992 , <i>20</i> , 533-538	
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	BQ	Ruoslahti, "How Cancer Spreads," <i>Sci. Am.</i> , 1996 , 72-77	
	BR	Saison-Behmoaras, T. et al., "Short modified antisense oligonucleotides directed against Ha-ras point mutation induce selective cleavage of the mRNA and inhibit T24 cells proliferation", <i>EMBO J.</i> , 1991 , <i>10</i> , 1111-1118	
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	BY	Svinarchuk, F.P. et al., "Inhibition of HIV proliferation in MT-4 cells by antisense oligonucleotide conjugated to lipophilic groups", <i>Biochimie</i> , 1993 , 79, 49-54
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*	CE	Ausubel, F.M. et al. (Eds.), <i>Current Protocols in Molecular Biology</i> , Current Publications, 1993
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*	CG	Green and Wuts, <i>Protective Groups in Organic Synthesis</i> , 2d edition, John Wiley & Sons, New York, 1991
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*A copy of this reference was not be forwarded to the U.S. Patent and Trademark Office since it was believed to be too voluminous and easily obtainable by the Examiner.



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	CK	Baker, B.F. et al., "2'-O-(2-Methoxy)ethyl-modified Anti-intercellular Adhesion Molecule 1 (ICAM-1) Oligonucleotides Selectively Increase the ICAM-1 Translation Initiation Complex in Human Umbilical Vein Endothelial Cells", <i>J. Biol. Chem.</i> , 1997 , 272, 11994-12000	
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Docket No.
ISIS-4288

Serial No.
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U.S. Department of Commerce
Patent and Trademark Office

Docket No.
ISIS-4288

Serial No.
09/438,989

Applicant
Yogesh S. Sanghvi et al.

Filing Date
**November 12,
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EXAMINER
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Form PTO-1449 Modified List of Patent and Publications Cited by Applicant (Use several sheets if necessary) U.S. Department of Commerce Patent and Trademark Office	Docket No. ISIS-4288	Serial No. 09/438,989
	Applicant Yogesh S. Sanghvi et al.	
	Filing Date November 12, 1999	Group 2953

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EXAMINER	DATE CONSIDERED
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Form PTO-1449 Modified

List of Patent and Publications
Cited by Applicant
(Use several sheets if necessary)

U.S. Department of Commerce
Patent and Trademark Office

Docket No.
ISIS-4288

Serial No.
09/438,989

Applicant
Yogesh S. Sanghvi et al.

Filing Date
**November 12,
1999**

Group
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**Form PTO-1449 Modified**

List of Patent and Publications
Cited by Applicant
(Use several sheets if necessary)

U.S. Department of Commerce
Patent and Trademark Office

Docket No.
ISIS-4288

Serial No.
09/438,989

Applicant
Yogesh S. Sanghvi et al.

Filing Date
**November 12,
1999**

Group
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**Form PTO-1449 Modified**Docket No.
ISIS-4288Serial No.
09/438,989List of Patent and Publications
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Yogesh S. Sanghvi et al.U.S. Department of Commerce
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**November 12,
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Examiner Initial		Document No.	Date	Name	Class	Subclass
	IO	5,519,126	05/21/96	Hecht	536	24.3
	IP	5,536,821	07/16/96	Agrawal et al.	536	22.1
	IQ	5,541,306	07/30/96	Agrawal et al.	536	22.1
	IR	5,541,307	07/30/96	Cook et al.	536	23.1
	IS	5,550,111	08/27/96	Suhadolnik et al.	514	44
	IT	5,561,225	10/01/96	Maddry et al.	536	23.1
	IU	5,563,253	10/08/96	Agrawal et al.	536	22.1
	IV	5,571,799	11/05/96	Tkachuk et al.	514	47
	IW	5,596,086	01/21/97	Matteucci et al.	536	22.1
	IX	5,602,240	02/11/97	De Mesmaeker et al.	536	23.1
	IY	5,608,046	03/04/97	Cook et al.	536	23.1
	IZ	5,610,289	03/11/97	Cook et al.	536	25.34

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					YES	NO

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Form PTO-1449 Modified

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Docket No.
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Serial No.
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Group
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	JA	5,618,704	04/08/97	Sanghvi et al.	435	91.5
	JB	5,623,070	04/22/97	Cook et al.	536	27.6
	JC	5,625,050	04/29/97	Beaton et al.	536	24.1
	JD	5,633,360	05/27/97	Bischofberger et al.	536	22.1
	JE	5,663,312	09/02/97	Chaturvedula	536	22.1
	JF	5,670,633	09/23/97	Cook et al.	536	23.1
	JG	5,677,437	10/14/97	Teng et al.	536	23.1
	JH	5,677,439	10/14/97	Weis et al.	536	23.1
	JI	4,845,205	07/04/89	Huynh Dinh et al.	536	28
	JJ	4,981,957	01/01/91	Lebleu et al.	536	27
	JK	5,118,800	06/02/92	Smith et al.	536	23
	JL	5,124,047	06/23/92	Quach, et al.	210	699

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	JM	5,130,302	07/14/92	Spielvogel et al.	514	45
	JN	5,134,066	07/28/92	Rogers et al.	435	91
	JO	5,138,045	08/11/92	Cook et al.	536	27
	JP	5,175,273	12/29/92	Bischofberger et al.	536	27
	JQ	5,218,105	06/08/93	Cook et al.	536	25.31
	JR	5,223,618	06/29/93	Cook et al.	544	276
	JS	5,264,562	11/23/93	Matteucci		
	JT	5,319,080	06/07/94	Leumann	536	27.1
	JU	5,359,044	10/25/94	Cook et al.	536	23.1
	JV	5,367,066	11/22/94	Urdea et al.	536	24.3
	JW	5,378,825	01/03/95	Cook et al.	536	25.34
	JX	5,386,023	01/31/95	Sanghvi et al.	536	25.3
	JY	5,393,878	02/28/95	Leumann	536	28.2
	JZ	5,432,272	07/11/95	Benner	536	25.3
	KA	5,446,137	08/29/95	Maag et al.	536	23.1
	KB	5,457,187	10/10/95	Gmeiner et al.	536	25.5
	KC	5,457,191	10/10/95	Cook et al.	536	27.13
	KD	5,459,255	10/17/95	Cook et al.	536	27.13
	KE	5,466,786	11/14/95	Buhr et al.	536	26.26
	KF	5,484,908	01/16/96	Froehler et al.	536	24.31
	KG	5,502,177	03/26/96	Matteucci et al.	536	2606
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Form PTO-1449 Modified

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	KH	5,506,351	04/09/96	McGee	536	55.3
	KI	5,514,785	05/07/96	Van Ness et al.	536	22.1
	KJ	5,519,134	05/21/96	Acevedo et al.	544	243
	KK	5,525,711	06/11/96	Hawkins et al.	536	22.1
	KL	5,543,507	08/06/96	Cook et al.	536	23.1
	KM	5,552,540	09/03/96	Haralambidis	536	25.34
	KN	5,567,811	10/22/96	Misiura et al.	536	25.34
	KO	5,571,902	11/05/96	Ravikumar et al.	536	22.1
	KP	5,576,427	11/19/96	Cook et al.	536	23.1
	KQ	5,578,718	11/26/96	Cook et al.	536	27.21
	KR	5,587,469	12/24/96	Cook et al.	536	23.1
	KS	5,591,722	01/07/97	Montgomery et al.	514	45
	KT	5,594,121	01/14/97	Froehler et al.	536	23.5
	KU	5,596,086	01/21/97	Matteucci, et al.	536	22.1
	KV	5,596,091	01/21/97	Switzer	536	24.5
	KW	5,597,909	01/28/97	Urdea et al.	536	24.3
	KX	5,602,000	02/11/97	Hyman	435	91.1
	KY	5,610,300	03/11/97	Altmann et al.	544	244
	KZ	5,614,617	03/25/97	Cook et al.	536	23.1
	LA	5,623,065	04/22/97	Cook et al.	536	23.1
	LB	5,627,053	05/06/97	Usman et al.	435	91.1
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**Form PTO-1449 Modified**

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Patent and Trademark Office

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Group
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	LC	5,639,873	06/17/97	Barascut et al.	536	25.3
	LD	5,646,265	07/08/97	McGee	536	25.34
	LE	5,658,873	08/19/97	Bertsch-Frank et al.	510	375
	LF	5,681,941	10/28/97	Cook et al.	536	23.1
	LG	5,700,920	12/23/97	Altmann et al.	536	221
	LH	5,817,781	10/06/98	Swaminathan et al.	536	22.1
	LI	5,859,221	01/12/99	Cook et al.	536	23.1
**	LJ	07/806,710	12/12/91	Jones, et al.		
**	LK	07/990,848	12/11/92	Jones, et al.		
**	LL	08/398,901	03/06/95	Cook et al.		
**	LM	08/762,488	12/10/96	Cook, et al.		
**	LN	08/837,201	03/14/97	Dean et al.		
**	LO	08/910,629	08/13/97	McKay et al.		
**	LP	09/009,490	01/20/98	Bennett et al.		
**	LQ	09/016,520	01/30/98	Cook et al.		
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**	LS	09/062,416	04/17/98	Bennett et al.		

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****Pursuant to 37 C.F.R. 1.98(a)(2)(iii) no copy of a U.S. patent application need be included with an Information Disclosure Statement filed under 37 C.F.R. 1.97.**

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**	LU	09/123,108	07/27/98	Manoharan et al.		
**	LV	09/130,973	08/07/98	Manoharan et al.		
**	LW	09/344,260	06/25/99	Manoharan		
**	LX	09/370,541	08/09/99	Manoharan, et al.		
**	LY	09/349,040	07/07/99	Manoharan et al.		
**	LZ	09/378,568	08/19/99	Manoharan et al.		

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